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AUTHOR Des Jarlais, Don C.
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ABSTRACT

Drug education is conceptualized as a socialization process, particularly as it is related to assuming the adult role. The effectiveness of two processes of social influence, expert power and referent (modeling) power, were measured in three different age groups-early adolescence, middle adolescence, and adulthood-in a drug education program. Learning of factual information and attitude change served as dependent variables. Results indicated strong age--specific effects. Expertise was most effective with adults, modeling most effective with early adolescents. Relationships between effectiveness and age level were monotonic. Implications are drawn for the study of adolescence, the study of attitude change, and the design of drug education programs. (Author)

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Age Levels

and

Social Influence Processes

in a

Drug Education Program

Don C. Des Jarlais

New York University

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Drug education programs in the United States may be viewed from a variety of perspectives. From a public health perspective, drug education programs are attempts to reduce a serious health hazard. From a legal perspective, they are attempts to prevent criminal behavior. From a psychological counseling perspective, they are attempts to prevent self-damaging behavior.

From a sociological perspective, drug education programs are a part of socialization into the culture, a part of "the process by which someone learns the ways of a given society or social group well enough to function within it" (Elkin, 1960, p. 4). Given the pervasiveness of psycho-active drugs in American culture (Leonard, et. al, 1971) and the variety of usage patterns[1], one would expect that some "education" about drugs would be required for functioning in American society.

Viewing drug education as a socialization process leads one to focus on three particular aspects of drug education:

1. the development of motivational patterns;
2. preparation for performing roles in society; and
3. the influence activities of socialization agents.

Drug education programs typically try to instill motivational patterns toward certain types of use/non-use of drugs (see the review by Wald and Abrams, 1972). Even the "rational decision-making about drugs" that is the goal of some programs represents a motivational pattern toward drug use/non-use.

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[1] Preliminary distinctions regarding patterns of drug use would include the following: medicinal - non-medicinal; legal - illegal; public - private; and abstinence - moderation - to excess.

Drug education programs also prepare one for role performance in society. The particular role to be performed is that of adult. In American culture, an adult is expected to be able to regulate his use of drugs. This expectation holds across different classes of drugs. For medical drugs, the adult is expected to regulate his usage according to an approved medical regimen. For legal, non-medical drugs (alcohol, nicotine) the adult is expected to limit his usage to either abstinence or moderation. For illegal drugs, the adult is expected to abstain and perhaps even avoid occasions of use. A child is not expected to have either the knowledge or the motivational capabilities to so regulate his behavior regarding drug usage.

Finally, considering drug education programs as socialization efforts leads one to a consideration of the social influence activities of the socialization agents. It is clear that drug education programs represent influence attempts by identifiable socialization agents, but it is not clear precisely how this influence operates, or why it is successful when it is successful (see Wald and Abrams, 1972, pp. 128-130). The following study was undertaken to delineate how different social influence processes operated in a drug education program.

Theory

French and Raven's (1968) theory of social influence was used in the study. This theory was chosen because it describes a relatively great number of different types of social influence, and because it predicts relatively specific effects from the different types of social influence. French and Raven describe five "bases of social power" which, when utilized, lead to five different types of social influence. The five types of social

power are defined in terms of how the person being influenced perceives the influence agent.

1. Reward power exists when the person perceives the influence agent as mediating rewards for the person. The person believes he will be rewarded for complying with the desires of the influence agent.

2. Coercive power exists when the person perceives the influence agent as mediating punishments for the person. The person believes he will be punished for not complying with the desires of the influence agent.

3. Legitimate power exists when the person perceives the influence agent as having a moral right to influence the person. The person believes he "ought" to do what the influence agent says.

4. Referent power exists when the person desires to identify with the influence agent. He wishes to be similar to, model himself after the influence agent.

5. Expert power exists when the person perceives that the influence agent has some special knowledge or expertise. The person accepts influence in order to utilize this special knowledge.

According to French and Raven's theory, the type of social power used in an influence attempt has great consequences for the effectiveness of the attempt. Reward and coercive power will change overt behavior without changing underlying cognitions or motivations. Thus reward and coercive power require surveillance of the person by the influence agent. Few drug educators are likely to be able to survey the drug use/non-use of their students. Because of this, reward and coercive power were not utilized in this study.

Expert power is based on the attribution of special knowledge and thus is limited to producing change in cognitions. Expert power thus should be limited in effectiveness to changing knowledge about drugs, and should not be capable of changing motives toward drug use/non-use.

Because it involves identification and modelling, referent power has the broadest range. Thus referent power should be capable of producing both change in knowledge about drugs and in motivation toward drug use/non-use.

Legitimate power is based on the person's perception that he ought to accept influence from the influence agent. It is not clear how effective legitimate power might be in a drug education program.

The study focussed on the effectiveness of the types of social power (expert, referent and legitimate) on two different aspects of socialization (knowledge and motives) regarding drug use.

The conceptualization of drug education as a socialization process also suggests that persons at different stages in the socialization into the adult role may react quite differently to a drug education program. Because of these possible differences, three different age groups were included in the study: early adolescents, middle adolescents, and adults. These three groups would be in quite different stages of choosing their own patterns of drug use/non-use. The early adolescents would be just becoming aware of the different possibilities involved with the non-medical use of drugs; the middle adolescents would be in a stage of experimenting with different forms of use/non-use of different drugs; and the adults would be relatively stable in their chosen pattern of use/non-use of drugs, but would be concerned with imparting those patterns they approved of to their children. While differences

were expected due to age-socialization level differences, no specific predictions about the content of these differences were made.

Method

Subjects

Subjects were volunteer participants in a drug education program sponsored by a church in a Midwestern university city. The city has a relatively high rate of use of a wide range of drugs. There is a substantial number of known drug users in the city. It is very unlikely, however, that any of the subjects could be considered members of a drug subculture of the city.

The church that sponsored the program endorsed a position of abstention from the non-medical use of alcohol and tobacco in addition to the abstention from the use of illegal drugs. Drug users, however, were not condemned, and the church has a highly innovative youth program. All of the adult subjects were members of the church, and all of the youth subjects were members of the church's youth program. The adults were much more "anti-drug" than the youth, from observations made during the study.

There were 42 subjects in the adult group, 54 in the middle adolescent (ninth and tenth grade) group and 29 in the early adolescent group (sixth and seventh grade). All subjects participated in the program because they desired the information about drugs. Participation in the research was done to help increase understanding of an important social problem. None of the subjects were aware of any hypotheses or theory involved in the research design.

Procedures

Subjects were divided into the respective age groups. Each group was given a short lecture on the determinants of drug effects and then had a question and answer session with the speaker. The total session lasted approximately two hours. (The drug education program contained several further sessions, but data were not gathered for all of those sessions.) The speakers included a pharmacology professor for the adults, a medical student for the ninth and tenth graders, and trained senior high drug educators for the sixth and seventh graders.

Data was collected by questionnaire immediately preceding the session and immediately following the session.

The content of the lecture was the same for all three groups, though the question and answer sessions tended to reflect the specific concerns of each age group.

Measuring Instruments

Because the different social influence processes and bases of social power were defined in terms of the motives and the perceptions of the person accepting the influence, questionnaires were considered the most efficient method of obtaining the desired information. Five point scales were used for all questions. The questionnaire preceding the drug information asked questions about 1) the person's desire for information about drugs, 2) the legitimacy of the church in sponsoring a drug education program, and 3) the activity level of the person in the organization.

The questionnaire following the information session included questions on 1) the perceived expertise of the speaker, 2) the perceived trustworthiness

of the speaker, 3) subject's perception of his similarity to the speaker, 4) the extent to which subject enjoyed the session, 5) subject's perception of possible friendship with the speaker, and 6) subject's perception of the speaker as a model for subject's own behavior. This second questionnaire also asked each subject to estimate the amount of factual information about drugs he had learned in the session, and the extent to which his motivation regarding drug use had been changed by the session. A collateral study (Des Jarlais, 1971) showed that these questions correlated .79 and .69 with change in factual knowledge of drugs as measured by pre- and post testing with the Drug Knowledge Inventory (McHugh, 1970) and with change in motivation as measured by a checklist and rank ordering questionnaire. The direction of change in motivation measured explicitly by this other questionnaire was toward a more complex pattern of motives regarding drug use. This included a greater consciousness of both the positive and negative motives for using drugs. Such a more complex motive pattern might not lead to abstaining from using all drugs, but the balance contained in this more complex pattern of motives should indicate a smaller probability of the heavy use associated with the abuse of drugs.

Results

The means and distributions for all variables were very similar across age groups for all of the questions. There were no significant differences in the means of the responses between any two groups on any question. Each group reported an average of a "considerable" amount of factual information learned and a "moderate" amount of change in motivation regarding drug use.

A factor analysis of the subject's perceptions of the drug educators and the education program produced strong support for French and Raven's notions of distinctive types of social influence. Three factors emerged as shown in Figure 1. Factor #1 clearly represents referent power, factor #2 legitimate power, and factor #3 referent power (modelling and identification). The emergence of three factors representing the different types of social influences gives strong support to the French and Raven typology. This is discussed in more detail elsewhere (Des Jarlais, 1971).

As expected, the different types of social influence were differentially effective in changing knowledge about drugs and changing motives toward drug use. Legitimate power was the least effective in producing changes. (See Figure 2.) Legitimate power correlated significantly with learning information only in the sixth and seventh grade group and correlated significantly with change in motivation only in the ninth and tenth grade group.

As predicted, expert power was limited to producing learning of information only. Expert power was not associated with change in motivations in any age group. (See Figure 3.) Expert power correlated significantly with learning information in all three age groups. It is important to note, however, that the association between expert power and learning information was strongest in the adult group, intermediate in the ninth and tenth grade group, and weakest in the sixth and seventh grade groups.

As expected, referent power had the broadest range. It correlated with both learning information and change in motivation in both the sixth and seventh grade group and the ninth and tenth grade group. (See Figure 4.)

Again, a clear pattern of age differences is apparent. Referent power was most effective in the youngest age group, moderately effective in the intermediate age group, and not effective in the oldest age group.

The findings of the study can be summarized briefly:

1. Legitimate power was generally not effective.

2. Expert power was effective in producing the learning of factual information about drugs. Its effectiveness increased with the age of the subject.

3. Referent power was effective in producing both learning of information and change in motivation. The effectiveness of referent power decreased with the age of the subject.

Discussion

In part, the findings illustrate the difficulties faced by drug educators. Legitimacy does not appear to be particularly helpful in drug education. Expertise on the part of the educator may produce learning without leading to any changes in motivation regarding drug use. Referent power - modelling seems to be the most effective method of influence, paralleling the case in sex education (see Simon and Gagnon, 1969).

The most interesting aspect of the findings is the age differences. Why should expert power decline in effectiveness with younger learners while referent power increases in effectiveness? Two possible explanations will be discussed: Piaget's theory of intellectual development, and Lewin's conceptualization of the phases of change.

Piaget (Inhelder and Piaget, 1958) discusses formal operational thought as essentially scientific rationality. According to Piaget, the

ability to think in this mode begins around the age of twelve. This would be the approximate age of the sixth and seventh grade subjects. If one is willing to make a series of assumptions, one might explain the decline in the effectiveness of expert power. First, recall that the content of the drug education program focused on the different types of drugs and the determinants of drug effects. This is essentially scientific material. The first assumption then is that learning the information of this program would be associated with the ability to think according to Piaget's formal operational mode.

The second assumption is that with increasing age, the person practices formal operational thought and becomes better at using this mode of thinking. The third assumption required is that formal operational thought facilitates the use of expert power in the teaching of scientific material. These three assumptions provide a possible explanation for the apparent increase in the effectiveness of expert power with the increasing age of the subjects.

A second possible interpretation of the age related differences can be made in terms of Lewin's phases of change. Lewin (1965) identified three phases of change:

1. unfreezing of the present level of behavior;
2. moving the behavior to a new level; and
3. re-freezing the behavior at the new level to prevent a return to the previous level.

Hawkinshire (1967), in his adaptation of Lewin to planned change methods has identified five phases of change: a phase of readiness which involves a preparation for the change effort, followed by Lewin's three

phases, followed by a termination phase in which the client system ends its dependency on the change agent. Both Lewin and Hawkinshire note that the unfreezing stage - in which well learned behavior is given up - may be psychologically difficult. Lewin states that "To break open the shell of complacency and self-righteousness, it is sometimes necessary to bring about deliberately an emotional stir-up." (1965, p 436) Similarly, Hawkinshire associates unfreezing with resistance and high tension levels.

The adults in their first drug education session appeared to be in an unfreezing phase. Many were openly hostile, often arguing with the drug educator. They particularly objected to hearing anything that was not strongly negative about any drug. That the drug educator was not condemning marijuana was a particular point of issue. The use of scare approaches to drug education, a point raised by several parents, provoked another strong disagreement between many parents and the drug educator.

To those who were observing the session, it appeared that many of the parents were having great difficulties in giving up firmly held beliefs and feelings. These centered on the belief that all "drugs" are alike and the feelings that all drug use should be unequivocally condemned. It is not unreasonable to assume that these parents had held these beliefs and feelings for a long period of time and had psychologically committed themselves to these beliefs and feelings.

If one sees the adults as being in the unfreezing stage during this particular drug education session, it is then possible to understand the high correlation between the perceived expertise of the educator and self-acknowledged learning in the adults. To the extent that the adult perceives

the educator as truly knowing what he is talking about, the adult will learn from that educator. To the extent that the adult perceives the educator as not being an expert, he will not unfreeze from his previously held beliefs and feelings.

The first session with the adolescents, and particularly the younger adolescents, had a very different affective tone than the session with the parents. The adolescents were more open to hearing new information and asked a wider variety of questions. While some adolescents did occasionally disagree with the drug educator, the disagreements were not emotional and were handled in a context of rational discourse. To the observers of the sessions, it appeared that the adolescents were in the moving phase of change. They were learning new information and developing new feelings, but they were not resisting by holding on to long cherished beliefs and feelings. The adolescents apparently had not developed deep committments to beliefs and feelings that they had to unlearn before they could adopt new beliefs and feelings.

It is reasonable to assume that referent power (based on identification and modelling) would be most effective in the moving phase of change. In this phase the person has given up old beliefs and feelings (to the extent he had them) and is seeking a new set of beliefs and feelings. To the extent that the drug educator is seen as a model for appropriately thinking and feeling about drugs, the person will change toward a similarity with the drug educator. Their evaluation of the educator's expertise will not be of particular importance, rather the degree to which he provides an opportunity for identification will be crucial.

Further indication that referent power is most appropriate in a later phase of change comes from some follow-up data from the adult group. By the fourth session the adults had "worked through" the resistance at giving up their previous beliefs and feelings (or had dropped out of the program). These adults were asked to re-rate the amount of change in motivation that had occurred for them in the program. These later ratings were then correlated against the perceptions of the educator measured in the first sessions. These correlations showed referent power to be effective. The three items that loaded on the referent power factor had an average correlation of .31 with change in motivation measured four weeks later. Apparently the modeling effect of the drug educator did not take hold until the old beliefs and feelings had been unfrozen and new beliefs and feelings were being adopted.

These findings indicate that the different types of social influence may be differentially effective in the different phases of change. Perceived expertise of the educator may be most effective in the unfreezing of previously held beliefs and feelings, while identification with the educator may be most effective in moving to new beliefs and feelings.

Application

The study shows differences in the effectiveness of different types of social influence in drug educator. Expert power was related only to learning factual information. Referent power was related to both learning information and changing motivation toward drug use. This indicates that drug education programs that desire to influence how the learner feels about drug use need to build in a modelling component.

The study also indicates strong age differences in the reaction to a drug education program. Adults learned primarily through expert power while adolescents learned primarily through referent power. These differences may be due to differences in cognitive styles, or differences in the phases of change in which adults and adolescents started the program, or both. While the interpretation of these results will require further research, a clear warning can be given to those adults who typically design drug education programs: Do not design a program that would be effective in reaching you, rather design a program that will be effective in reaching those who will be participating in it.

Figure 1: Factor Analysis of Subjects Perceptions

Factor	#1	#2	#3
highly loaded items *	a. similarity to educator	a. S's need for drug education	a. perceived expertise of the educator
	b. possibility of friendship with educator	b. seeing sponsoring organization as legitimately involved in drug education	b. trust in the educator
	c. seeing educator as a model		

* all items that loaded .30 or higher

Figure 2: Correlations of Legitimate Power Factor with Socialization Components

Age Group	Knowledge	Motivation
6th and 7th grade	.28 *	.04
9th and 10th grade	.17	.24 *
Adults	.13	.07

* significant at .05 level

Figure 3: Correlations of Expert Power Factor with Socialization Components

Age Group	Knowledge	Motivation
6th and 7th grade	.26 *	.09
9th and 10th grade	.35 **	-.19
Adults	.46 **	.02

* .05 level of significance
** .01 level of significance

Figure 4: Correlations of Referent Power Factor with Socialization Components

Age Group	Knowledge	Motivation
6th and 7th grade	.36 **	.43 **
9th and 10th grade	.23 *	.24 *
Adults	.06	-.01

* .05 level of significance
** .01 level of significance

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